

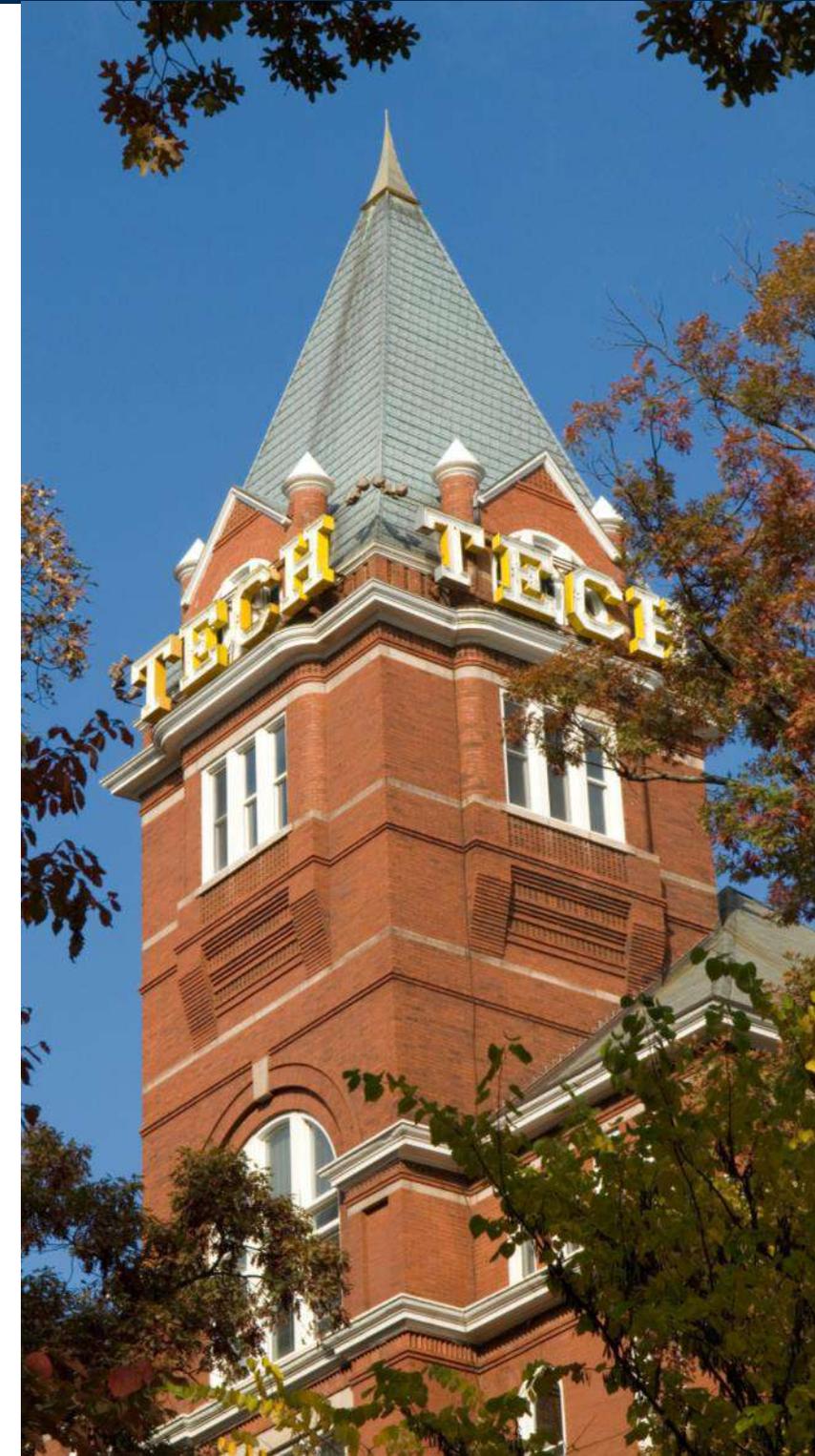
ARTEMIS
QUARC
QUALITY UNDER ADJUSTABLE REALISTIC CONDITIONS

Project Overview

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DISCLAIMER

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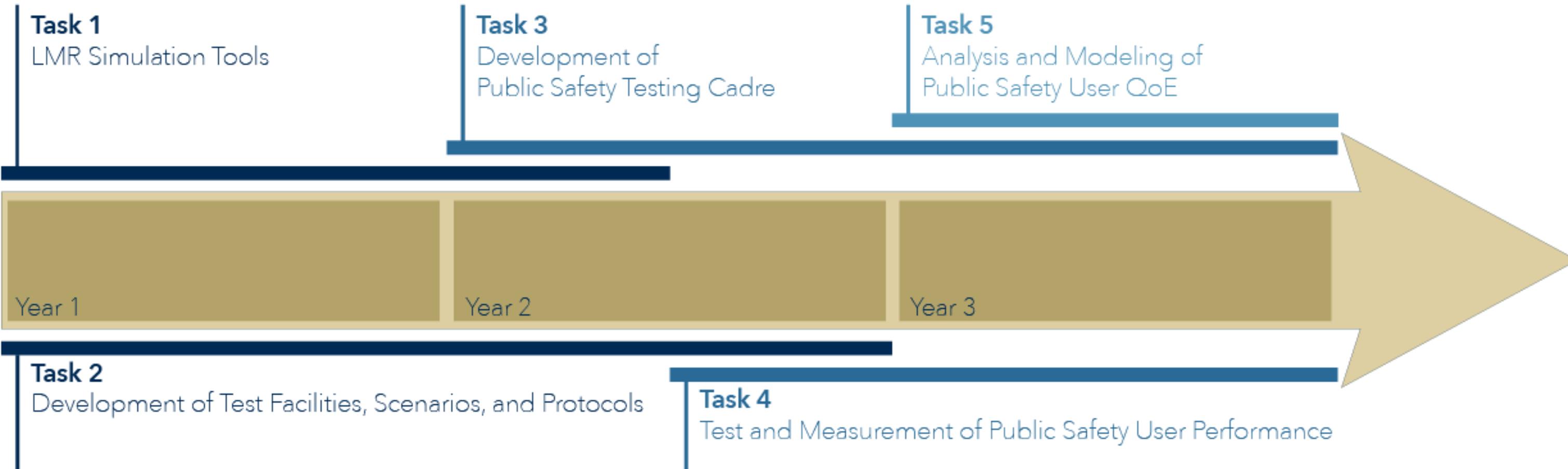
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QUARC (Quality Under Adjustable Realistic Conditions)

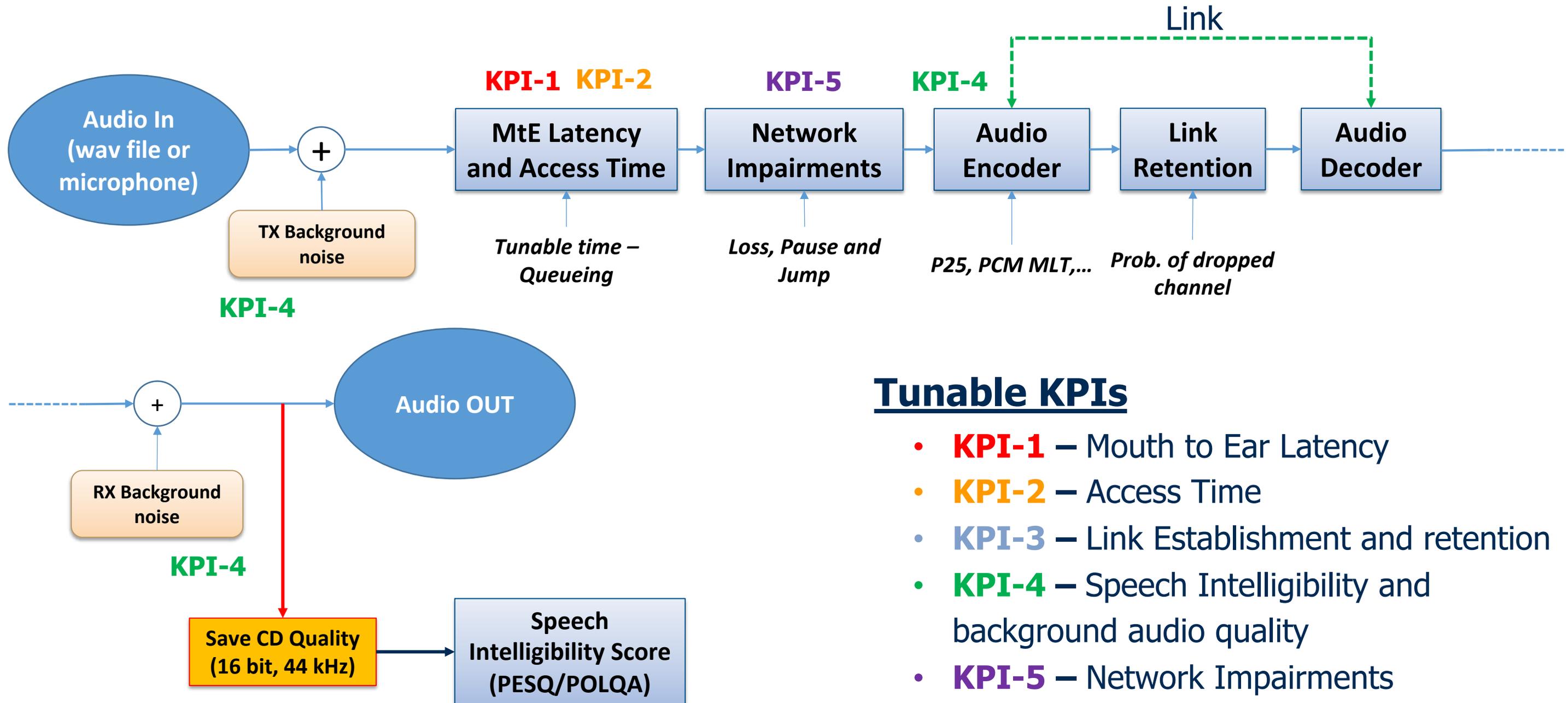
To develop a framework for the evaluation of mission critical voice (MCV) quality of experience (QoE) for first responders operating in real field scenarios

- ❑ **GOAL 1** - Simulated Land Mobile Radio (LMR) Equipment Development
- ❑ **GOAL 2** - Development of Test Facilities, Test Scenarios, and Test Protocols for MCV QoE Tests
- ❑ **GOAL 3** - Development of Public Safety Testing Cadre
- ❑ **GOAL 4** - Test and Measurement of Public Safety Users' Performance
- ❑ **GOAL 5** - Analysis and Modeling of Public Safety User QoE

Project Schedule



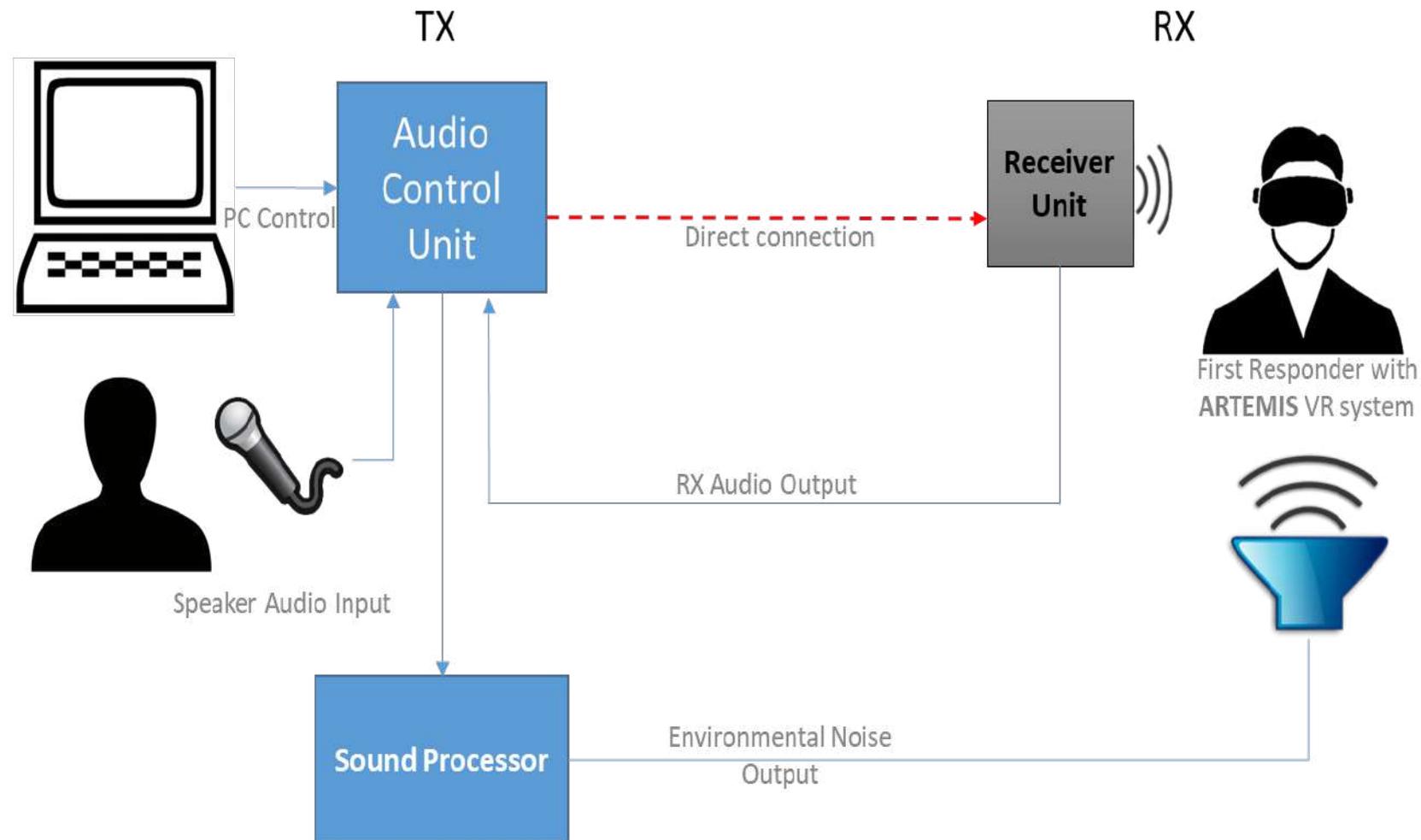
Tunable KPIs Implementation



Tunable KPIs

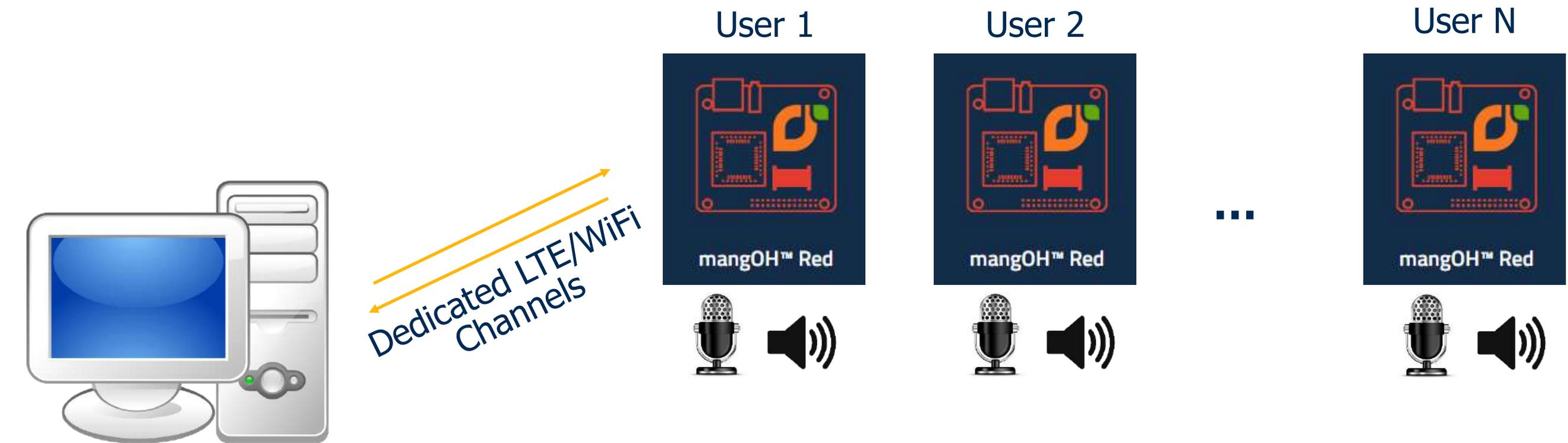
- **KPI-1** – Mouth to Ear Latency
- **KPI-2** – Access Time
- **KPI-3** – Link Establishment and retention
- **KPI-4** – Speech Intelligibility and background audio quality
- **KPI-5** – Network Impairments

Architecture for Laboratory Testing



- Possibility to test in VR environment or in normal conditions
- VR background noise guaranteed by 3D sound controlled over UNITY and reproduced using high quality flat response headsets
- Normal conditions uses a Dolby Atmos 5.1.2 system for reproducing background noise in 3D
- Units at the receiver end will be implemented by a push-to-talk speaker/microphone
- Possibility to input live voice (speaker) or to chose a pre-recorded utterance

Architecture for Field Testing



Centralized Node Controls all communications and KPIs

- Architecture based on Mangoh Development Kit
- Allows scalability with small footprint
- Integrated LTE, WiFi, BTLE

Testing Facility – The Guardian Center in Perry, GA



Thank you!

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#PSCR2019

Get your hands on the tech!

**Demos
Open**